

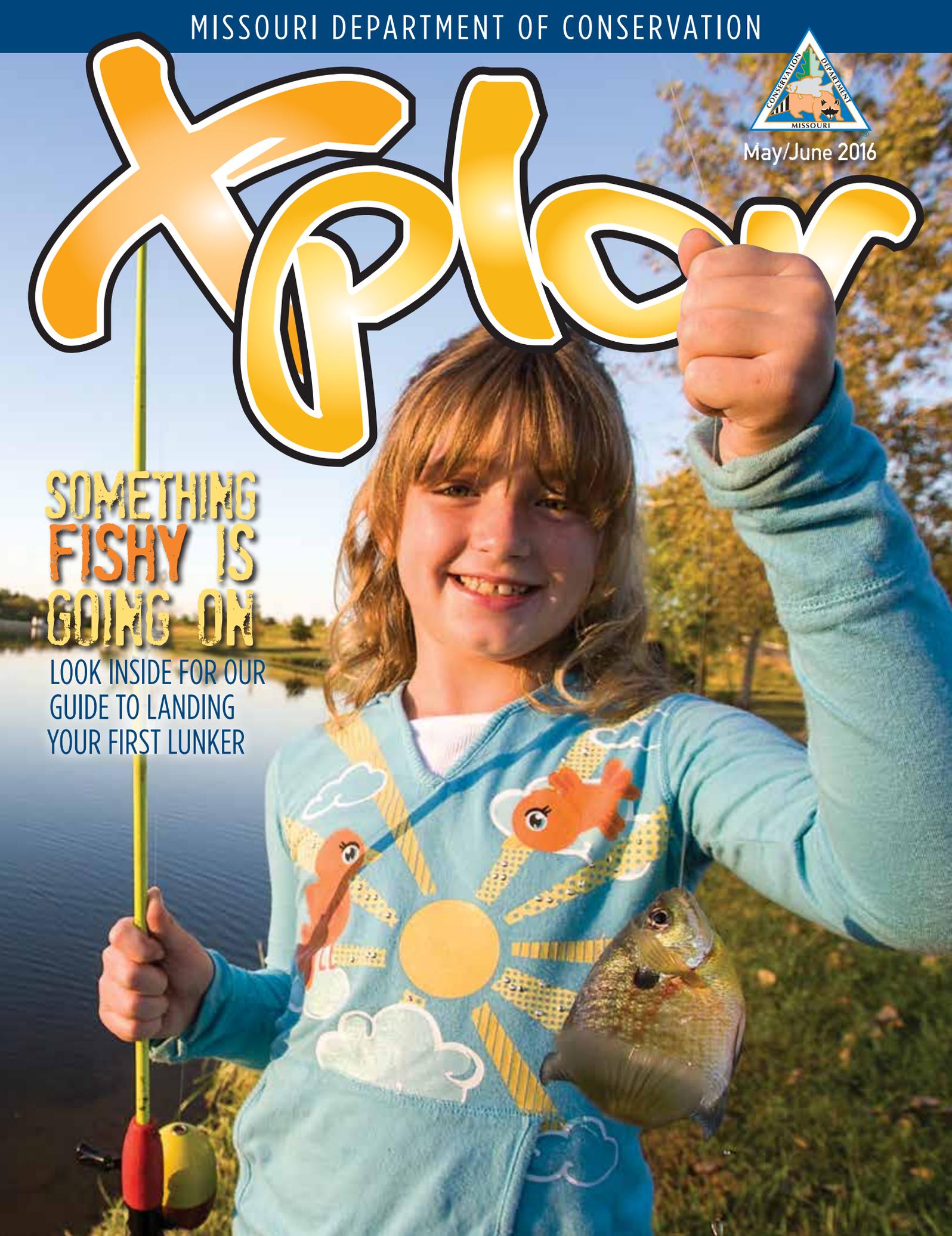


May/June 2016

Explorer

SOMETHING
FISHY IS
GOING ON

LOOK INSIDE FOR OUR
GUIDE TO LANDING
YOUR FIRST LUNKER



CONTENTS

FEATURES

- 6** **Fishing for First-Timers**
Check out *Xplor*'s guide to fishing, and you'll be landing lunkers in no time.
- 12** **Little Armored Ones**
Learn what makes armadillos super survivors — and what stops their spread north.

DEPARTMENTS

- 2** Get Out!
- 3** What Is It?
- 4** Into the Wild
- 16** Predator vs. Prey
- 17** Strange but True
- 18** How To
- 20** Xplor More



This **baby bittern** is having a bad hair day. Can you spot mama hiding in the background?

📷 by Noppadol Paothong



Xplor

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ON THE COVER

Happy Angler
by David Stonner

GET OUT!

DON'T MISS THE CHANCE TO DISCOVER NATURE AT THESE FUN EVENTS



1

Sing along with Emmy Award-winning singer/songwriters Jan and George Syrigos at **NATURE'S SUPERHEROES WITH WILDHEART**. Cape Girardeau Conservation Nature Center. May 6, 7–8 p.m. For more information, call 573-290-5218.



2

Discover and explore the importance of butterflies and caterpillars with Pipevine the toy caterpillar in **BUTTERFLY MAGIC WITH THE FISHIMAGICIANS**. Powder Valley Conservation Nature Center. May 13, 7 p.m. Register at 314-301-1500.



Pipevine swallowtail caterpillar

Battus philenor Caterpillar.jpg by Geoff Gallice/CC BY 2.0



Become a skilled archer at **CONSERVATION KIDS: ARCHERY** (ages 7–12 only). Springfield Conservation Nature Center. May 26, 6–7:30 p.m. All equipment provided. Register at 417-888-4237.

3

4

Learn about the little water critters that live in Jacks Fork River at **NATURE NUTS: MACROINVERTEBRATE MAYHEM**. Twin Pines Conservation Education Center in Winona. June 18, 10 a.m.–2 p.m. Register at 573-325-1381.



Damselfly nymph

5

At **SHARING NATURE WITH DAD**, we'll take a hike and then create a craft especially for Dad. Walter Woods Conservation Area in Joplin. June 14, 6–7:30 p.m. Register at 417-629-3423.



May and June are great months to get outside and explore nature! Listen and watch for these natural events.

MAY 14

Watch for lightning bugs on warm evenings.

MAY 19

Listen for cricket frogs. Their calls sound like small pebbles being struck rapidly together.

MAY 22

Antlers begin to grow on white-tailed deer bucks.

JUNE 7

Raspberries begin ripening — yum!

JUNE 14

Watch for birds carrying food to their young.

JUNE 26

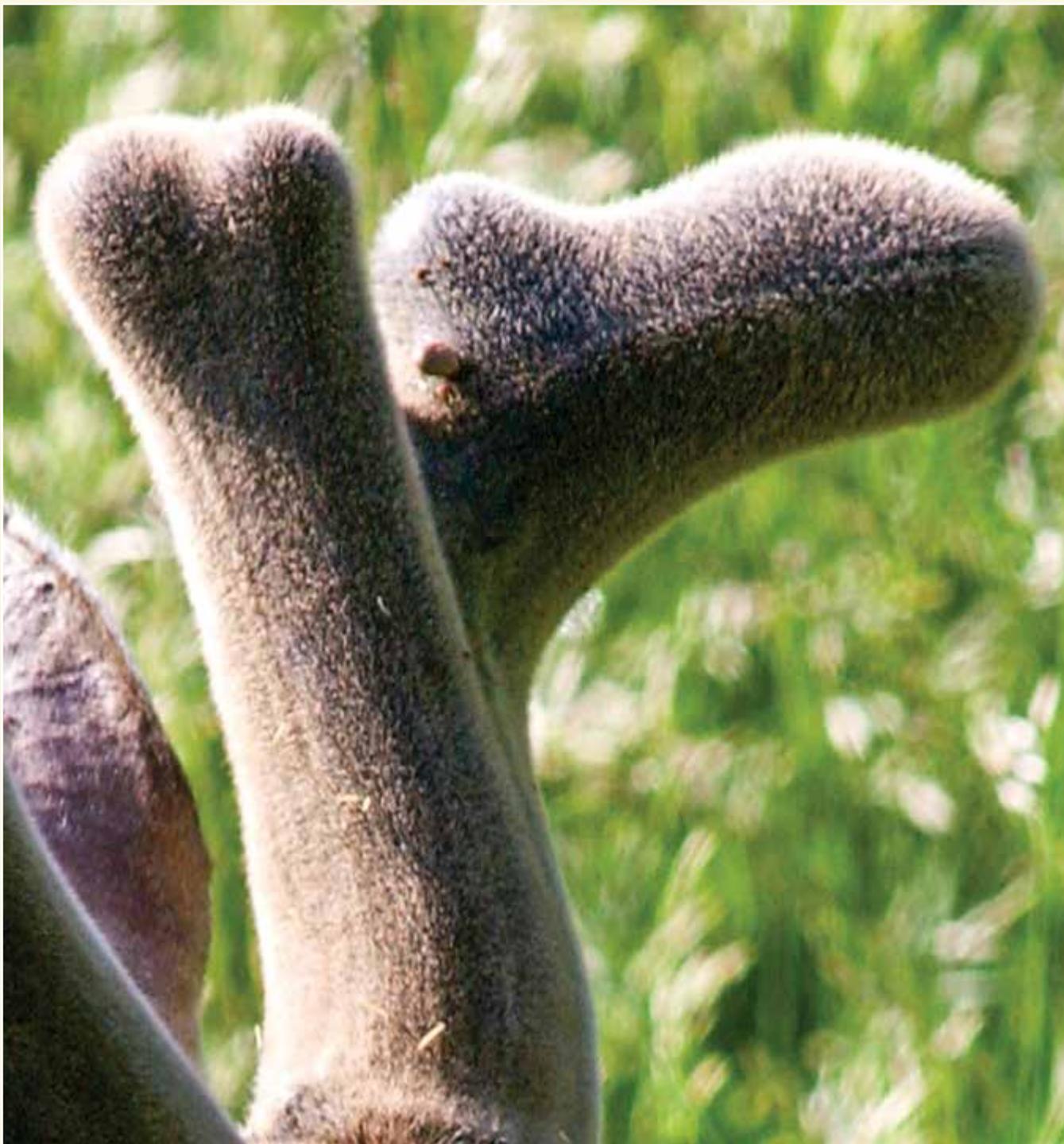
Watch for nonvenomous northern watersnakes basking near water.

Mayfly nymph

Stonely nymph

WHAT IS IT?

DON'T KNOW?
Jump to Page 20 to find out.



- ① I appear in the spring as two fuzzy buttons.
- ② I soon branch out and grow inches per week.
- ③ My outside is soft, but my inside is hard.
- ④ I'm good in a fight, but I easily bleed.

Into the WILD prairie

Every summer, prairies across Missouri put on a fireworks show when riots of wildflowers burst into bloom.

LOOK With all those flowers, it's no wonder prairies are abuzz with insects. Nearly 3,000 kinds of butterflies, bumblebees, beetles, and other bugs buzz about in Missouri's best-quality grasslands. Bring a net to swish through the flowers and see how many kinds of insects you can catch.



Heads Up!

Prairies don't have much shade, so wear a hat and slather on sunscreen to protect yourself from the sun.

Prairie blazing star

Wild bergamot

Butterfly milkweed

Monarch caterpillar

LOOK

Exploring a prairie is like walking through a rainbow. Flowers of every color — from flame-red paintbrush to cool-blue wild indigo — hide among the tall grasses waving in the wind. How many colors can you spot during your trip?

Purple coneflower

Where to Go

May and June are great months to visit a prairie. Wildflowers are in peak bloom, and the weather hasn't become face-melting hot. Here are a few perfect prairies to visit.

Get directions at mdc.mo.gov/atlas.

- 1 Pawnee Prairie Natural Area
- 2 Paint Brush Prairie Conservation Area
- 3 Hi Lonesome Prairie Conservation Area
- 4 Taberville Prairie Conservation Area
- 5 Diamond Grove Prairie Conservation Area
- 6 Prairie State Park



Sensitive

brier is a low-growing prairie plant with prickly, vine-like stems and pink pompom-shaped flowers. If you find a patch of sensitive brier, try this trick. Touch the plant's fern-like leaves, and you'll see them quickly fold shut.



Loggerhead shrikes are robin-sized birds with oversized attitudes. Although they normally prey on grasshoppers and small lizards, they aren't afraid to attack animals as large as themselves. Lacking talons, this bird-of-prey wannabe often stabs its victims onto thorns or barbed wire for easier eating.



What Happened Here?

Baby spittlebugs suck sap from plants and turn it into spit-like foam. The bugs snuggle inside the slobber, safe from predators and the heat of the sun. Although the foam looks like spit, it's not. It actually comes from a spittlebug's *other* end.



Henrik Larsson/Shutterstock

Take a Closer Look

Next time you sniff a flower, a sneaky spider may be hiding right under your nose. **Crab spiders** don't weave webs to catch prey. Instead, they wait patiently on flowers, relying on camouflage to stay hidden. When a bee buzzes in, the spider pounces.



FISHING FOR FIRST-TIMERS

by Matt Seek

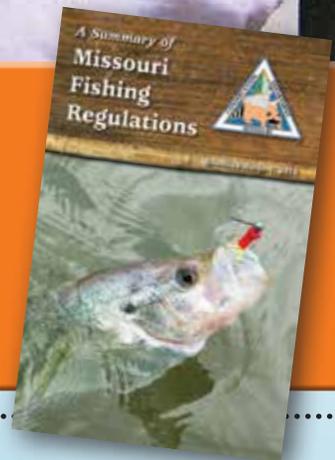
When you cast a lure into the deep, you never know what you might catch. Fishing is full of surprises, which is one reason many people like it. If you've always wanted to fish, but don't know how, let *Xplor* be your guide. We'll cover the basics of fishing at a pond or lake, so the only surprise you'll encounter is the size of the lunker on the end of your line.

Bluegill



KNOW THE RULES

Fishing doesn't have many rules, but it does have a few, and it's your responsibility to follow them. Get the lowdown on permits, length limits, and other rules by picking up *A Summary of Missouri Fishing Regulations*. This free booklet is available at Conservation Department offices, bait shops, and online at mdc.mo.gov/fishing/regulations.



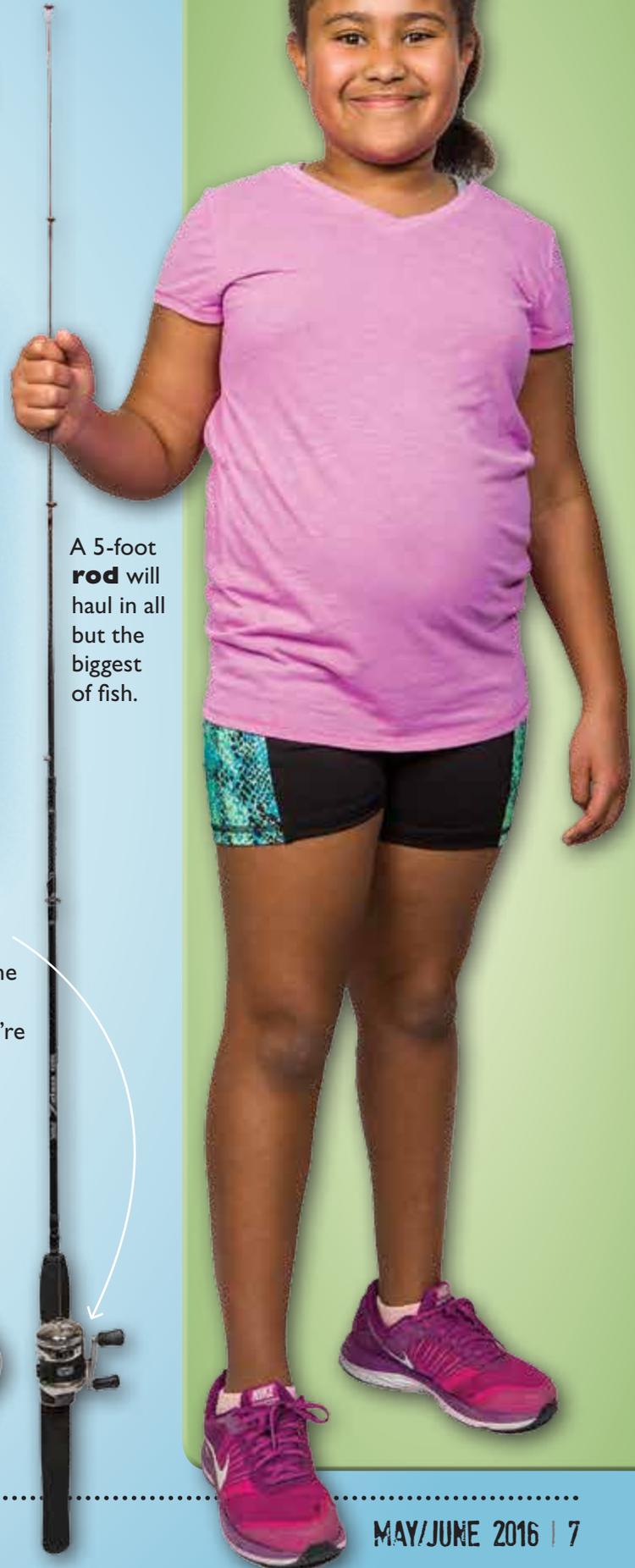
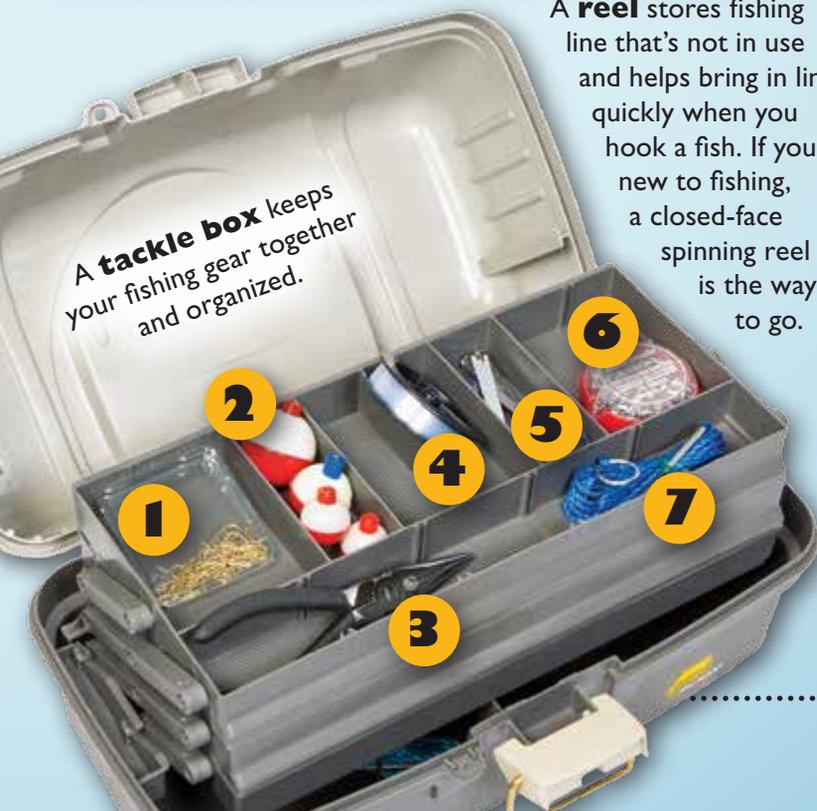
GEAR UP

It's possible to catch fish with a stick, some string, and a safety pin. But fishing is easier and more fun with the right gear. Here's what you need.

1. Size 6 Aberdeen **hooks** are small enough to fit into the mouths of pond fish but big enough to hold a variety of baits.
2. **Bobbers** float on the surface and help hold bait underwater at a certain depth.
3. **Needle-nosed pliers** are great for crimping split shot onto your line and removing hooks from a fish's mouth.
4. Clear, 8-pound-test **monofilament line** is strong enough to land most fish but light enough to be invisible underwater.
5. **Fingernail clippers** are handy for cutting monofilament line when you change lures.
6. **Split shot** adds weight to your line so your bait sinks quickly underwater.
7. Take a **stringer** along if you plan to take fish home for dinner.

A **reel** stores fishing line that's not in use and helps bring in line quickly when you hook a fish. If you're new to fishing, a closed-face spinning reel is the way to go.

A **tackle box** keeps your fishing gear together and organized.

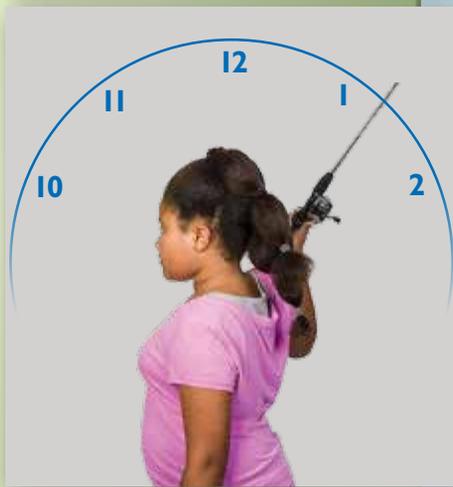
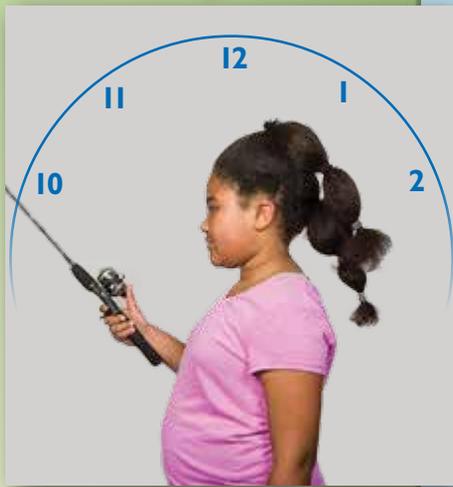


A 5-foot **rod** will haul in all but the biggest of fish.

LEARN TO CAST

With practice, casting will become second nature. Until then, follow these steps.

1. Imagine your elbow is the center of a clock and your forearm is the hour hand. Start your cast with your forearm and rod pointed at 10 o'clock.
2. Slowly move your forearm backward to about 2 o'clock.
3. Push and hold the button on the reel. Look at the place where you want to cast and smoothly move your forearm forward. At 11 o'clock, lift your thumb off the reel's button, and your lure will zing out toward the target.

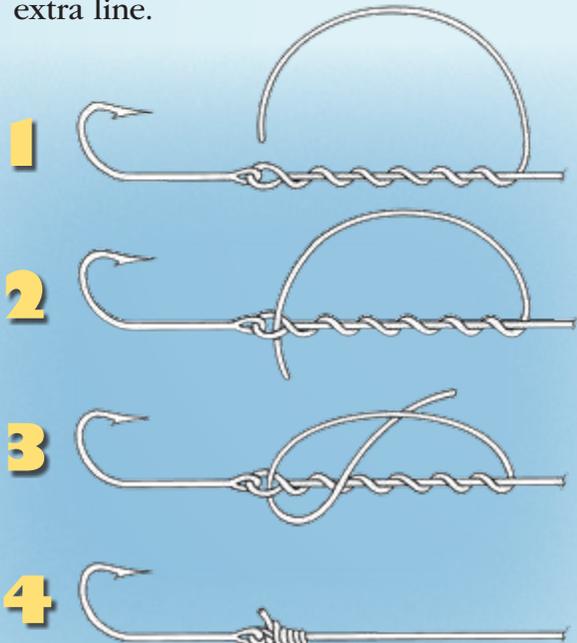


RIG UP

TIE ON A HOOK

The **improved clinch knot** is strong and easy to tie, even with wet fingers.

1. Pull 6 inches of line through the eye of the hook and fold the line back onto itself. Hold both pieces of line in your fingers and twist the hook five full turns.
2. Insert the end of the line through the space between the first twist and the eye of the hook.
3. Bring the end of the line back through the loop you just made.
4. Hold the hook in one hand and both ends of the line in the other. Wet the line with a little spit and pull firmly to tighten the knot and snug it up against the eye of the hook. Use fingernail clippers to trim off extra line.



If the lure flies up in the air and doesn't go far, you took your thumb off the button too early. If the lure smacks the ground at your feet, you released the button too late.

Bottom fishing rig

GET SOME BAIT

When it comes to bait, a wiggly earthworm is tough to beat. But if threading a slimy worm onto a hook grosses you out, give these other baits and lures a try.

BAITS

LURES



BLUEGILL

Worms
Crickets

Jigs
Small spinners
Popping bugs



LARGEMOUTH BASS

Worms
Minnows
Grasshoppers

Crankbaits
Plastic worms
Topwater plugs
Crayfish lures
Spinner baits



(CHANNEL CATFISH

Worms
Cut-up fish
Chicken livers
Stinky dough bait



Catfish hunt mostly by smell, so lures usually don't work.

RIG YOUR LINE

How you tie bait, bobbers, and weights on your line depends on what kind of fish you want to catch. Catfish hunt near the bottom, so add weight to keep your bait deep. Bluegill and bass often swim a few feet beneath the surface, so use a bobber to suspend your bait where fish can find it. Most artificial lures don't require bobbers or weights. Simply tie on a lure and reel it in to get a strike.

Bobber rig



Fish illustrations by Joseph R. Tomelleri

GO FISH

You've practiced casting, rigged your line, and found a fishing hole.

Now what?

FIND THE FISH

Fish use cover such as weeds, docks, rocks, and stumps to escape predators or as hiding places to ambush prey.

Fish can also be found at the edges between different kinds of habitat. Cast your lure along a weed line, for example, and you'll often get a bite.

KEEP OR RELEASE?

If you like catching fish but don't want to eat them, make sure you release your catch quickly and carefully so it has the best chance to survive.

- If possible, don't take fish out of the water.
- If you must take a fish out of the water, wet your hand before handling the fish.
- Don't squeeze fish too hard, and never put your fingers in a fish's eyes or gills.
- If a fish has swallowed the hook, don't remove it. Cut the line, and the hook will eventually rust away.

BE PATIENT

Sometimes it takes a while for a fish to find your bait. Be patient and don't take your eyes off your bobber! If you see the bobber jiggle, a fish is nibbling on the bait. If you see the bobber sink suddenly, set the hook.

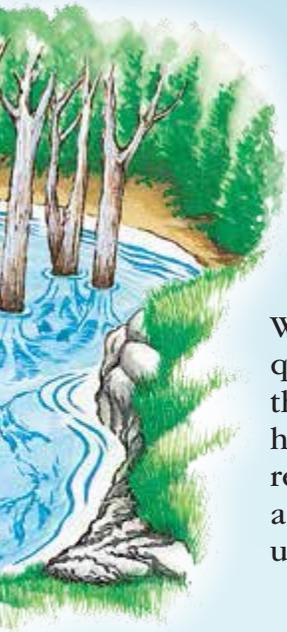
LEARN MORE

Cast your browser at these websites to broaden your fishing know-how.

- Find a place to fish at mdc.mo.gov/atlas.
- Get the latest fishing report at fishing.mdc.mo.gov.
- Sharpen your fishing skills at a free Discover Nature — Fishing class. Learn when the next class is offered and how to sign up at mdc.mo.gov/events.

CAN YOU FIND WHERE THE FISH ARE HIDING IN THIS POND?





SET THE HOOK

When you suspect a bite, quickly sweep the tip of the rod upward to set the hook. Always keep loose line reeled up. Trying to hook a fish with slack in the line usually leads to a missed fish.



REEL IT IN

Keep the tip of the rod high, so the fish stays hooked. Reel in the line to pull the fish closer, but don't jerk the rod or pull too hard. That could snap the line or injure the fish. When the fish is close enough, slip a net under it or reach down and grab it.

REMOVE THE HOOK

Bass, bluegill, and catfish don't have sharp teeth, but they do have pokey fins. Hold a bass or a small catfish by putting your thumb into the fish's mouth and pinching its lower lip. Hold a bluegill by sliding your hand from the head over the fish's back to push and hold down the fins. The fish will likely squirm, so hold it firmly but don't squeeze too hard. Use needle-nosed pliers to back the hook out of the same hole it went in.



Largemouth bass

.....

LITTLE ARMORED ONES

by Bonnie Chasteen

The nine-banded armadillo is native to Mexico, but now it's found in Missouri, mostly in the south. Only cold weather slows its movement north. That's because it has little defense against the cold. Instead of fur, this strange-looking mammal has thin hair between its hardened plates of skin. It also has a low body temperature, and it doesn't hibernate. So it sticks to places where it can dig a snug burrow, stay warm, and find things to eat all year-round.

© Batuque | Dreamstime.com

Can the nine-banded armadillo roll up into a ball? Nope. Only the three-banded armadillo can do that, and it lives in Brazil.



© Batuque | Dreamstime.com

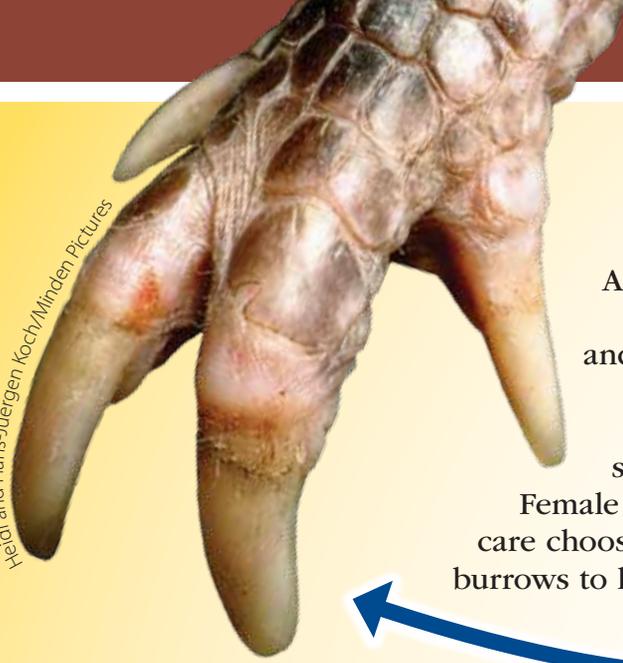


Two large plates and nine smaller bands surround the armadillo's middle. More plates cover the head, short legs, and tail.

Superior Sniffers

A long nose is good for sniffing, and that's how armadillos find their food. They root along the ground for ants, beetle larvae, and worms. They gobble the occasional lizard, mushroom, or fruit bit, too. They use their sharp claws to dig up food, and then flick it into their mouths with their long, sticky tongues. *Nom, nom, nom ...*

Heidi and Hans-Juergen Koch/Minden Pictures



They Dig Burrows

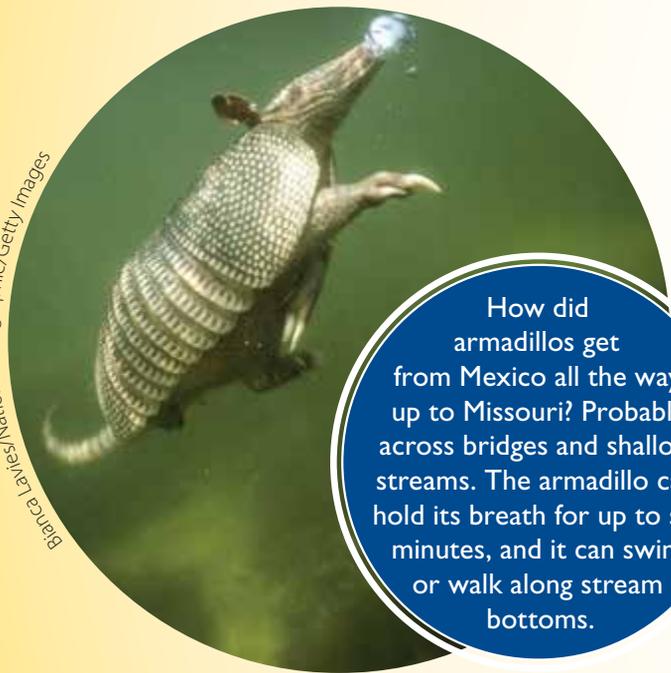
Armadillos spend most of their time sleeping and hanging out in their burrows, which they dig using their large, shovel-like front claws.

Female armadillos take extra care choosing where to dig nest burrows to keep their babies safe.



Karan A. Rawlins, University of Georgia, Bugwood.org

Bianca Lavies/National Geographic/Getty Images



How did armadillos get from Mexico all the way up to Missouri? Probably across bridges and shallow streams. The armadillo can hold its breath for up to six minutes, and it can swim or walk along stream bottoms.

Tough but Jumpy

The armadillo's armor covers almost its whole body. In fact, the word "armadillo" means "little armored one" in Spanish. Maybe armadillos need all this protection to make up for bad eyesight and poor hearing. They also jump 3 to 4 feet straight up into the air when frightened, which explains why they're often hit by cars and trucks. Ouch!



Bianca Lavies/National Geographic/Getty Images



Heidi and Hans-Juergen Koch/Minden Pictures

Armadillos are tough everywhere except their tummies. If a coyote or bobcat can flip one over, it's curtains for the armadillo.

Like Four Peas in a Pod

Armadillos nearly always have four identical babies, either all boys or all girls. The young are born with no shell, but their eyes are open, and they can move around. They mainly just chill with mom in their burrow. Like most baby mammals, they survive on mom's milk the first several weeks of life.

They Love the Night Life

Armadillos are nocturnal. That means they're active at night. They prefer places with plenty of water and loose dirt, like Missouri's oak-hickory and shortleaf pine forests in the Ozarks. They can run fast when pursued, so you might hear them scuttling through your campsite after dark, especially if you camp in low-lying woods near water.



© Batuque | Dreamstime.com

THIS
ISSUE:

AMERICAN BULLFROG VS NORTHERN WATERSNAKE

Illustrated by David Besenger

Quick and Nimble

The sleek, slinky watersnake can twist and turn to escape capture.

Heavyweight Hoppers

Bullfrogs can grow up to 8 inches long from nose to vent (that's what we call a frog's bottom), and they can weigh up to a pound and a half.

Prey Packers

Bullfrogs lead with their big, sticky tongues and open mouths, but they'll use their four-fingered hands to cram in prey, if necessary.

Eating Machines

Bullfrogs eat anything they can get in their big mouths — spiders, fish, birds, rodents, snakes, and other frogs.

Long and Strong

Northern watersnakes are 7 to 10 inches long when they hatch, and they can grow 24 to 42 inches long. This young watersnake is probably less than 20 inches long. Does it stand a chance against the heavyweight bullfrog?

AND THE WINNER IS...

STRANGE but TRUE!

YOUR GUIDE TO ALL THE
UNUSUAL, UNIQUE,
AND **UNBELIEVABLE** STUFF
THAT GOES ON IN NATURE



Mama mia!
Each **LITTLE BROWN BAT** baby has a distinct call. This helps mama bats find the right pup among the hundreds crowded together on the walls of a nursery cave.

Female **CRICKET FROGS** know they're in love when things start to click — literally. To attract a mate, male cricket frogs produce a call — *glick, glick, glick* — that sounds like two pebbles being clicked rapidly together.



Many **CADDISFLIES** piece together pebbles, sand, and twigs to build cases that protect their soft, squirmy bodies. The baby insects live in the cases at the bottom of streams until they turn into air-breathing, moth-like adults.



Most birds won't eat furry worms — after all, who likes to find a hair in their supper? But **YELLOW-BILLED CUCKOOS** are so cuckoo for caterpillars, they even eat the bristly ones.



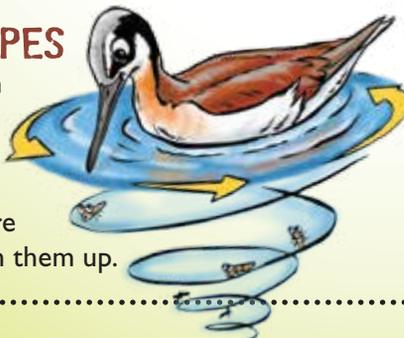
ROUGH GREENSNAKES

hang out in low-growing branches, relying on their green scales to blend in with the leaves. The sneaky snakes sometimes take camouflage a slither further and sway like a vine being blown by the breeze.

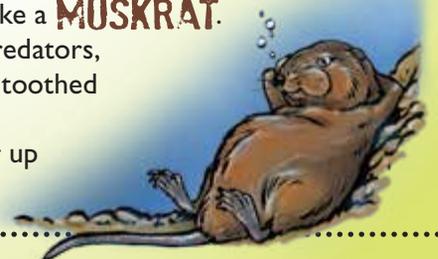


Oh, snap! When threatened, **CLICK BEETLES** bend their bodies into a “U” then straighten out suddenly with a loud **CLICK!** This catapults the insect into the air and startles any critter that was hoping for a beetle snack.

Dizzy diners: **PHALAROPES** swim around and around in tight circles to rustle up supper. This creates a mini whirlpool that brings insects to the surface where the hungry birds can snatch them up.



You wouldn't need a scuba tank if you had lungs like a **MUSKRAT**. To hide from predators, the furry, buck-toothed divers can stay underwater for up to 17 minutes.



HOW TO

Whittle a Hickory Whistle

When sap flows through hickory trees in May, it's time to whittle some whistles. Here's how.

HERE'S WHAT YOU NEED

- Handsaw used to prune trees
- Pocketknife
- Two freshly cut hickory branches
- An adult to help you with the sharp tools

HERE'S WHAT YOU DO

- 1 Find a hickory tree.** Hickory trees grow throughout Missouri and are easy to spot if you look for two clues:
 - **Hickory leaves are pinnately compound.** That means each leaf is made of several smaller leaflets attached to a stalk in the middle. Hickories in Missouri can have three to nine leaflets on each leaf, but most have five to seven.

Hickory branches are alternate. That means they never grow straight across from each other. Ash trees also have pinnately compound leaves, but their branches are opposite, which means they grow directly across from each other.



2

Pick a stick.

Saw off a branch that's a 1/2 inch to 1 inch thick and 8 to 12 inches long. Examine the branch closely before you cut. If it has lots of knots or scars, choose another.



3

Cut a notch.

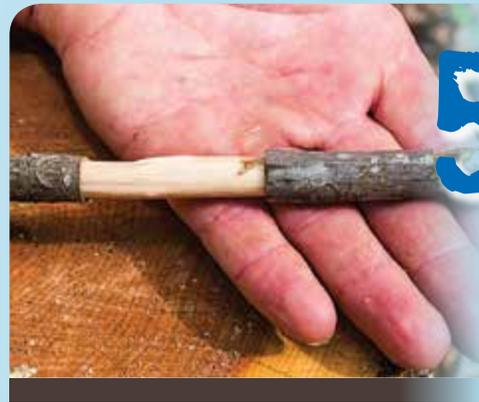
Trim one end of the stick so it's flat. One inch from the trimmed end, use a pocketknife to cut straight down into the stick about 1/3 of the way through. Move half an inch farther down and shave a sloping cut that meets the straight-down cut you just made.



4

Cut a ring.

An inch down from the notch, completely cut a ring around the stick. Cut through the bark but not all the way through the stick.



5

Pound, twist, and pull.

Use another stick to gently pound the bark between the ring cut and the flat end of the stick. Keep pounding until sap leaks out of the cuts. Twist and pull the loosened bark off the wood. You want the bark to slide off in a single, unbroken tube. This is the mouthpiece. Set it aside.

the cuts. Twist and pull the loosened bark off the wood. You want the bark to slide off in a single, unbroken tube. This is the mouthpiece. Set it aside.



6

Cut a plug. Use your saw to cut off a short section of the stick from the end to the notch. Turn this section on its end. Use your knife to cut down, going with the grain of the wood, to take off a thin sliver from the entire section. Keep your fingers out of the way! This is the plug. Set it aside.

8

Put your whistle together.

Slide the plug into the mouthpiece. Make sure the flat part of the plug faces upward toward the notch on the mouthpiece. Slide the mouthpiece onto the endpiece.



7

Trim up the endpiece.

Whittle the exposed wood that's left on the stick so that it tapers gently.

The Moment of Truth Blow on the end of the mouthpiece. If you did everything right, a clear whistle should sing out of the notch. To keep your whistle working, keep it in a glass of water or zip-top bag.

XPLOR MOR

Metamorphosis MAYHEM

All animals change a little as they grow. Butterflies and moths change a lot! These colorful insects begin life as a tiny egg. Out of the egg hatches a wiggly larva, aka a caterpillar. The caterpillar eats and eats and gets bigger and bigger. Eventually, it forms a cocoon or chrysalis and becomes a pupa (*pyoo-puh*). The pupa appears to be dead, but inside, an amazing change is taking place. When the insect leaves the cocoon or chrysalis, it will have turned into a fluttery adult moth or butterfly. Biologists call this series of changes metamorphosis (*met-ah-mor-fuh-sis*).



Can you match these caterpillars to the adult butterflies or moths they become?



WHAT IS IT?

— FROM PAGE 3 —

Every year, bucks grow a new set of antlers. They start as “buttons” covered in fuzzy, tender, blood-rich skin called velvet. Actually bones, these buttons can grow at a rate of 2 inches per week!



RE



REGAL MOTH

Ronald F. Billings/Texas A&M Forest Service/Bugwood.org



ISABELLA TIGER MOTH

Donna Brunet

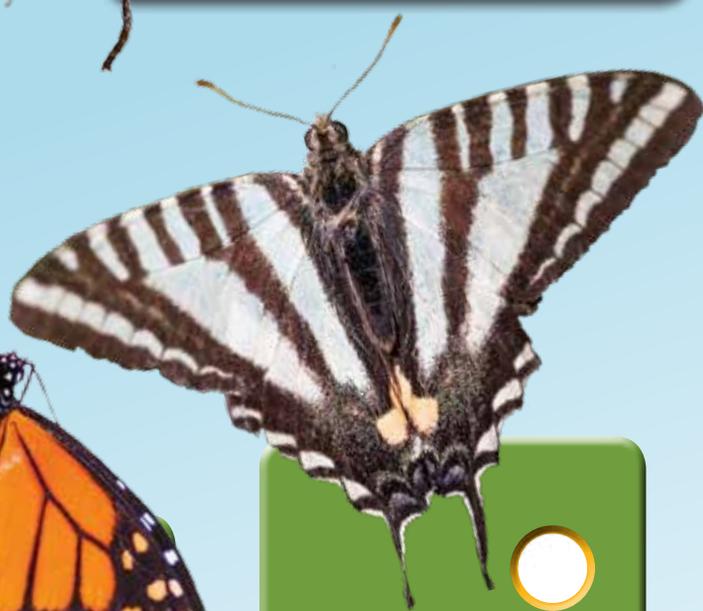


SADDLEBACK CATERPILLAR MOTH

4700 - Acharia stimulea - Saddleback Caterpillar Moth (19866363376).jpg by Andy Reago & Chrissy McClarren/CC BY 2.0



MONARCH BUTTERFLY



ZEBRA SWALLOWTAIL



TIGER SWALLOWTAIL



GIANT SWALLOWTAIL



IO MOTH

Jessica Louque-Smithers/Viscent/Bugwood.org

1-Tiger swallowtail; 2-Monarch butterfly; 3-Zebra swallowtail; 4-Giant swallowtail; 5-Regal moth; 6-Io moth; 7-Saddleback caterpillar moth; 8-Isabella tiger moth

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FREE TO MISSOURI HOUSEHOLDS

CRITTER CORNER

Baby Killdeer



This leggy little killdeer hatched with its eyes open and ready to follow mom. In spite of its name, it does not kill deer (imagine!). *Kill-deer!* is the sound these shorebirds make. Come close to mom's eggs (easy to do since they're laid right on the ground), and she will perform a broken-wing act. You can see and hear killdeer almost anywhere in Missouri all summer long.